Sunday, May 20

3:00 pm Check-in

6:00 pm Reception *(Lobby)*

7:00 pm Dinner

8:00 pm Welcome and Opening Remarks

8:05 pm **Keynote: Viren Jain**, Google
Connectomics: Automated reconstruction and neural architecture search

9:00 pm Refreshments available at Bob's Pub

Monday, May 21

7:30 am Breakfast *(service ends at 8:45 am)*

9:00 am **Session 1**
Chair: Danielle Bassett

9:00 am **Gerry M. Rubin**, Janelia Research Campus/HHMI
Experimental tools and approaches for probing circuit function in Drosophila

9:20 am **Albert Cardona**, Janelia Research Campus/HHMI
Circuit architecture for combining innate and learned valences

9:40 am **Stephen M. Plaza**, Janelia Research Campus/HHMI
Analyzing approximate connectomes

10:00 am **Louis Scheffer**, Janelia Research Campus/HHMI
Analysis of connectomes

10:20 am Break

11:00 am **Session 2**
Chair: Kevin Briggman

11:00 am **Rainer W. Friedrich**, Friedrich Miescher Institute for Biomedical Research
Connectivity determines neuronal computations in the olfactory bulb

11:20 am **Marcel Oberlaender**, Center of Advanced European Studies and Research
Predicting anatomically realistic cortical connectomes using statistical methods

11:40 am **Xiaoyin Chen**, Cold Spring Harbor Laboratory
Multiplexed analysis of single-cell spatial projectome using in situ sequencing

12:00 pm Lunch *(service ends at 1:00 pm)*

1:30 pm **Session 3**
Chair: Julijana Gjorgjieva

1:30 pm **Joergen Kornfeld**, Max Planck Institute of Neurobiology
Structural correlates of plasticity rules in the songbird basal ganglia

1:50 pm **Alyssa M. Wilson**, Princeton University
Exploring changes in neural circuitry at the climbing fiber-Purkinje cell interface in the developing mouse cerebellum

2:10 pm **Aaron T. Kuan**, Harvard Medical School
Large-scale EM reconstruction of microcircuits supporting sequential activity in parietal cortex

2:30 pm Break

3:00 pm **Session 4**
Chair: Marta Sales-Pardo

3:00 pm **Emma K. Towlson**, Northeastern University
Control principles in the Caenorhabditis elegans nervous system

3:20 pm **Mei Zhen**, Mt. Sinai Hospital & University of Toronto
Invariant, stochastic, and developmentally regulated synapses constitute the C. elegans connectome

3:40 pm **Danielle Bassett**, University of Pennsylvania
Network control: Implications for connectomes across species

4:00 pm **Group Discussion**
Moderator: TBD

4:30 pm Break

4:45 pm **Poster Blitz!** *(3-minutes / 2-slides each)*

Kaylynn Coates, West Virginia University
Sven Dorkenwald, Princeton University
Katharina Eichler, University of Puerto Rico
Michal Januszewski, Google
Christopher Kim, NIDDK/NIH
Joshua Lillvis, Janelia Research Campus/HHMI
Venkatakrishnan Ramaswamy, National Centre for Biological Sciences
Daniel Udvary, Research Center Caesar
Lav Varshney, University of Illinois at Urbana-Champaign
Adrian Wanner, Princeton Neuroscience Institute
Zhihao Zheng, Janelia Research Campus/HHMI

5:20 pm Poster Reception

7:00 pm Dinner

8:00 pm **Session 5**
Chair: Viren Jain

8:00 pm **Clay Reid**, Allen Brain Institute for Brain Science
Connectivity motifs of inhibitory axons in a dense segmentation of visual cortex

8:20 pm **Sebastian Seung**, Princeton University
Relating neocortical inhibition to visual response properties

8:40 pm Refreshments available at Bob's Pub

Tuesday, May 22

7:30 am Breakfast *(service ends at 8:45 am)*

9:00 am **Session 6**
Chair: Daniel Larremore

9:00 am **Winfried Denk**, Max Planck Institute of Neurobiology
Beyond the connectome

9:20 am **Aravinthan Samuel**, Harvard University
The interplay between physical proximity, synaptic connectivity, and development of the C. elegans connectome

9:40 am **Marta Zlatic**, Janelia Research Campus/HHMI
Neuronal architecture for the adaptive control of reinforcement processing in the insect mushroom body

10:00 am **Alexander Borst**, Max Planck Institute of Neurobiology
A biophysical mechanism for preferred direction enhancement in fly motion vision

10:20 am Break

11:00 am **Session 7**
Chair: Amina Qutub

11:00 am **Michael Reiser**, Janelia Research Campus/HHMI
Selective synaptic contacts promote retinotopic detection of visual information in the Drosophila central brain

11:20 am **Vivek Jayaraman**, Janelia Research Campus/HHMI
Connectomic information that unconstrains models: EM reconstruction of a putative ring attractor network

11:40 am **Edgar Fuller**, West Virginia University
Detecting hierarchical community structures in the mouse retinal connectome

12:00 pm Lunch *(service ends at 1:00 pm)*

1:00 pm Tour *(optional - meet at reception)*

2:00 pm **Session 8**
Chair: Mei Zhen

2:00 pm **Claus C. Hilgetag**, University Medical Ctr. Eppendorf, Hamburg University
Linking macroscopic brain connectivity and intrinsic brain architecture

2:20 pm **Konrad Kording**, University of Pennsylvania
The geometry of neurons

2:40 pm **Amina Ann Qutub**, Rice University
Cell communication in developing neural networks

3:00 pm **Marta Sales-Pardo**, Universitat Rovira i Virgili
Prediction on multilayer data

3:20 pm Break

4:00 pm **Session 9**
Chair: Srini Turaga

4:00 pm **Carina Curto**, Pennsylvania State University
Dynamic attractors in threshold-linear networks

4:20 pm **Daniel B. Larremore**, University of Colorado Boulder
Which community detection method is best?

4:40 pm **Moritz Helmstaedter**, Max Planck Institute for Brain Research
Interpretation of connectomic data from the mammalian cerebral cortex

5:00 pm **Group Discussion**
Moderator: TBD

5:30 pm Poster Reception

7:00 pm Dinner

8:00 pm Refreshments available at Bob's Pub

Wednesday, May 23

7:30 am Breakfast *(service ends at 8:45 am)*

9:00 am **Session 10**
Chair: Carina Curto

9:00 am **Srini C. Turaga**, Janelia Research Campus/HHMI
A connectome derived computational model of the fruit fly visual system

9:20 am **Julijana Gjorgjieva**, Max Planck Institute for Brain Research
Plastic and homeostatic changes in cortical circuits during activity deprivation

9:40 am Break

10:25 am **Session 11**
Chair: Claus Hilgetag

10:25 am **Nils Otto**, University of Oxford
Analysis and Interpretation of an aversive memory circuit connectome in Drosophila

10:45 am **Elad Schneidman**, Weizmann Institute of Science
TBD

11:05 am **Closing Discussion and Final Remarks**
Moderator: TBD

11:50 am Lunch and Departure

12:15 pm First shuttle to Dulles
1:15 pm Second shuttle to Dulles
2:15 pm Last shuttle to Dulles